The Set of Human Needs and the Urgency of Distinguishing Between Needs and Desires

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Abstract

This article proposes a theory of human needs conceived as an interdependent set of three dimensions — personal, social and environmental — grounded in the biological principle of symbiosis. It is shown how from the endosymbiosis that gave rise to mitochondria to the formation of multicellular organisms and ecosystems, cooperation between levels has been the basis of complexity and health, without there being a fixed hierarchy among them. From this framework, a distinction is made between needs (limited, universal, satiable, healthy) and desires (unlimited, particular, insatiable and often harmful).

Keywords: Human needs, symbiosis, personal-social-environmental set, induced desires, well-being, interdependence.

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1. Introduction

What does a human being really need to live well and in harmony with their environment? The answer is not trivial, because the dominant economic and cultural system has systematically confused genuine needs with artificial desires, generating chronic dissatisfaction, unsustainable consumption, discomfort and personal, social and environmental harm. To address this problem, we must first establish what these needs are, where they come from and how they are articulated.

Unlike Maslow's pyramid or hierarchical theories, this article argues that human needs are not organised in steps from lesser to greater importance, but form an interdependent set. All are equally constitutive of human well-being; their

momentary relevance depends on the context and acute deficiencies, but none is "more basic" than another in an ontological sense. The appropriate metaphor is not the ladder, but the network or the circle: each need relates to the others, and the lack of any of them generates discomfort, even if the others are satisfied.

This article develops a theory of needs as a set of three dimensions — personal, social and environmental — whose foundations lie in biological symbiosis, a principle that has operated for billions of years to create complex and resilient living systems. On this basis, a clear distinction is established between needs (limited, satiable and healthy) and desires (unlimited, insatiable and often harmful), and it is denounced how certain social actors promote the confusion between the two.

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2. The Three Dimensions of Human Needs and Their Symbiotic Foundation

2.1 Symbiosis as an Organising Principle of Life

Complex life does not arise from isolated parts, but from intimate cooperations that become indissoluble. Serial endosymbiosis (Margulis, 1998) explains how about 1,500 million years ago an aerobic bacterium was incorporated by an ancestral cell, becoming the mitochondrion, the organelle that produces energy in all our cells. That bacterium lost its autonomy in exchange for a stable environment, and the host cell gained an efficient source of energy. Later, a similar symbiosis gave rise to chloroplasts in plants.

This same pattern repeats itself in the transition from unicellular to multicellular organisms: genetically identical cells specialised (neurons, muscles, epithelia) and established communication systems (hormones, neurotransmitters). No specialised cell can live in isolation; all depend on an internal medium maintained by the whole (homeostasis). Apoptosis — programmed cell death — occurs when a cell does not receive signals from its neighbours: isolation kills.

Finally, a human being is not a closed unit: it is a holobiont, a set formed by the animal and its microbial symbionts (intestinal, skin bacteria, etc.). 90% of the cells in our body are microbial; without them, we could not digest food, regulate our immune system or even maintain a stable mood.

Fundamental lesson: Health at any level (cell, organism, ecosystem) depends on the satisfaction of needs in all symbiotic dimensions simultaneously. There is

no fixed hierarchy: a cell needs both energy (mitochondria) and signals from its neighbours, and the lack of either causes discomfort or death. Analogously, a human being needs personal well-being, social bonds and a healthy environmental context at the same time. Ignoring one dimension generates systemic inflammation — disease, conflict or crisis — regardless of how satisfied the others are.

2.2 Personal Dimension (the Individual as a Unit)

The human being, as an individual organism, has needs linked to survival and the development of its identity. Following the criteria of universality (lack produces discomfort in any healthy person), satiability (there is a finite threshold) and healthiness (satisfaction does not generate deferred harm), we propose the following table:

Personal Needs

Need	Satisfaction indicator	Deficiency indicator
Physiological	Nutritious food, hydration, restorative sleep, shelter, sexual relationship	Hunger, thirst, fatigue, extreme cold/heat, sexual frustration
Personal security	Physical and sexual integrity, health, stable shelter	Fear, chronic anxiety, hypervigilance
Identity and autonomy	Coherence of the self, decision-making capacity, privacy	Loss of meaning, depression, submission
Growth and purpose	Development of talents, learning, creativity, meaning	Existential emptiness, deep boredom

Symbiotic foundation: Each cell in our body needs a stable chemical environment and signals from its neighbours. Analogously, the individual needs a physical and social environment that allows them to maintain their integrity and develop their potentials. Personal autonomy is not isolation, but specialisation within a whole.

2.3 Social Dimension (the Individual in Society)

Humans are social animals; our brain has specific circuits for attachment, recognition and cooperation. Social distress (rejection, exclusion) activates the same brain areas as physical pain (Lieberman & Eisenberger, 2009). Chronic loneliness increases mortality as much as obesity or smoking (Holt-Lunstad et al., 2010).

Social Needs

Need	Satisfaction indicator	Deficiency indicator
Attachment and bonding	Stable intimate relationships, non-threatening physical contact, group belonging	Loneliness, rejection pain, depression
Recognition and esteem	Being valued, having a respected place in the group	Chronic shame, unhealthy competitiveness, apathy
Justice and equity	Impartial treatment, predictable norms, proportionate retribution	Indignation, resentment, cynicism
Cooperation and transcendence	Contributing to the common good, social legacy	Feeling of uselessness, nihilism

Symbiotic foundation: Cellular specialisation in an organism requires continuous communication (chemical signals) and a common defence system. In humans, social communication (language, gestures, institutions) and systems of justice fulfil analogous functions. A society that does not satisfy these needs generates pathological behaviours comparable to apoptosis or autoimmunity.

2.4 Environmental Dimension (the Individual in the Environment)

This dimension is the most forgotten in traditional theories, including Maslow's, but it is constitutive. Animals in captivity, even with food and company, develop erratic behaviours and diseases if their environment does not satisfy their ecological needs.

Environmental Needs

Need	Satisfaction indicator	Deficiency indicator
Clean air, water, soil	Toxin-free breathing, clean water, uncontaminated food	Headaches, allergies, chronic fatigue
Adequate shelter	Climate protection, natural light, ventilation, sufficient space	Overwhelm, sleep disorders, claustrophobia
Mobility and territory	Autonomous movement, ability to cover distances, absence of confinement	Irritability, stereotyped behaviours (pacing), anxiety
Nature and rhythms	Exposure to sunlight, night darkness, natural sounds, contact with earth/plants	Circadian dysregulation, nature deficit (increased cortisol)
Stimulus complexity	Varied environment (textures, smells, shapes), possibility of exploration	Deep boredom, cognitive decline

Symbiotic foundation: The human holobiont includes the microbiome, which depends on the quality of soil, water and air. In addition, the human nervous system evolved in rich and varied natural environments; poor and monotonous environments (like zoo cages) generate chronic stress. The need for nature is not an aesthetic luxury, but a biological requirement.

2.5 Interdependence of the Three Dimensions

The three dimensions are neither independent nor hierarchically ordered. They form an interdependent set: a failure in one generates discomfort in the others, without any having ontological priority over the others. Some relationships:

- Personal → Social: Lack of sleep (personal) makes one irritable and hinders relationships (social).
- Social → Environmental: Inequality (social) leads to segregated neighbourhoods with poorer environmental quality (environmental).
- Environmental → Personal: Noise and pollution (environmental) produce insomnia and anxiety (personal).
- Social → Personal: Group rejection (social) can cause depression (personal) even if the person has their physiological needs covered.

- Environmental → Social: Lack of green spaces (environmental) reduces opportunities for community encounter (social).

This interdependence is exactly what the symbiotic principle predicts: no level can be healthy if the others are sick. The appropriate metaphor is not a pyramid (where some steps support the higher ones), but a circle or a network: each node affects all the others.

Important: This does not mean that in an acute emergency situation (extreme hunger, imminent danger) one need cannot become temporarily a priority. Prioritisation is contextual and temporary, not structural. A person with acute hunger will pay attention to food, but that does not make the physiological need "more basic" than the need for attachment at the level of the human condition. Once the urgency has passed, the need for relationship reappears with equal force. Therefore, needs are not ordered in a fixed scale; they form a set in which any element can become critical depending on circumstances.

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3. Needs vs. Desires: The Distinction and the Problem of Induced Desires

3.1 Criteria for Distinguishing a Need from a Desire

Once needs in the three dimensions have been established, it is crucial to differentiate them from desires, especially from those that the political, economic and cultural system promotes as if they were needs. For this we use three operational criteria:

Criterion	Need	Desire
Universality	Any healthy person feels well-being when satisfied and discomfort if not attended to	The person only feels momentarily satisfied by social comparison (e.g., fashion) or by compulsive consumption (e.g., drugs); the rest of the time they experience discomfort
Satiability	There is a homeostatic threshold that, once	The more one satisfies, the more one desires, requiring increasing

Criterion	Need	Desire
	reached, demands no more	doses with no tolerance threshold (addictive escalation)
Healthiness	Satisfying the need restores personal, social and environmental equilibrium without generating deferred harm	Satisfaction of the desire often generates personal harm (dependence, intoxication), social harm (marginalisation, exclusion) and environmental harm (pollution, resource depletion)

A need is therefore that which simultaneously fulfils all three conditions: its satisfaction or dissatisfaction produces discomfort or well-being in all people, it can be satisfied with a finite amount, and it is healthy (does not harm or create dependence).

A desire is an aspiration that does not fulfil any of these conditions: it is not universal (it depends on comparison with others), it is insatiable (one always wants more or better), and its satisfaction often entails collateral damage. These can become very serious in the case of addiction, where satisfaction is a harm that does not respond to a need, but to a pathological demand of the reward system.

3.2 The Mechanism of Induced Desires: How Corporations, Media, the Cultural Industry and Politics Confuse People

Corporations, the media and a good part of politicians have a structural interest in blurring the distinction between needs and desires. Why? Because a person who has their genuine needs covered (nutritious food, decent housing, affective bonds, nature, mobility) stops consuming beyond what is necessary. Perpetual GDP growth, on the other hand, demands programmed insatiability.

The mechanisms are varied:

- **Food corporations:** The need to eat is transformed into a desire for addictive ultra-processed foods, which generate nutritional hunger (unsatisfied real need) and diseases, driving more consumption of foods, diets and medications.
- **Arms corporations:** The need for security is distorted into a desire for military superiority, selling weapons under the banner of "defence" and "deterrence".

- **Pharmaceutical corporations:** The need for health is fragmented into desires for pills for every ailment (often mild or induced), pathologising natural processes.
- **Media:** They transform the need for information and recognition into a desire for continuous consumption of sensationalist news, viral videos and "likes", with algorithms designed for addiction.
- **Cultural industry (fashion, design, entertainment):** It converts the need for creativity and aesthetic belonging into a desire to consume low-quality products of limited duration, with imposed aesthetics each season and planned obsolescence.
- **Governments and political parties:** Real needs (housing, health, education, employment) are transformed into market promises or media patches, keeping the citizenry in chronic dissatisfaction.

The result is a hedonic treadmill: the person runs after objects, status or validations that never end up satisfying them, while real needs — personal, social and environmental — are postponed or covered with harmful substitutes.

3.3 Consequences of Confusing Desires with Needs

- **At a personal level:** Anxiety, depression, burnout, addictions, existential emptiness. The person feels that "something is always missing" without knowing what.
- **At a social level:** Extreme inequality (the rich accumulate unlimited desires while the poor lack basic needs), polarisation (identities based on consumption brands), erosion of community fabric.
- **At an environmental level:** Overexploitation of resources, pollution, climate change, biodiversity loss. The finite planet cannot sustain infinite desires.

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4. Implications and Applications

4.1 Education

- Incorporate into the curriculum literacy in needs: teach to distinguish and prioritise needs (common, limited, satiable and healthy) from desires (particular, unlimited, insatiable, often harmful), without fixed hierarchies.
- Guarantee in all public centres a dialogical and active methodology, artistic, sports and cultural activities, the participation and involvement of the educational community, and excursions, exchanges and camps as an indispensable part of the curriculum.

- Design functional school spaces with sports facilities and green areas, equipped with the necessary equipment and materials to implement a school model in accordance with the whole set of human needs.

4.2 Politics and Economy

- Prioritise the satisfaction of the whole set of needs over GDP growth. Establish real well-being indicators: percentage of population with access to nutritious food, healthy housing, leisure time, green spaces, stable social bonds, etc.
- Regulate advertising that turns desires into needs, especially that aimed at children and adolescents. Prohibit planned obsolescence and marketing of addictive products (ultra-processed foods, gambling, social media with behavioural design). And the indirect promotion of unhealthy consumption models and habits.
- Establish health and ecological taxes on products that satisfy insatiable desires with high health costs (alcohol, tobacco, sugar, saturated fats) and environmental costs (plastic packaging, seasonal fashion, replacement appliances, fossil fuels).

4.3 Urban and Technological Design

- **Cities of sufficiency (15-minute city model):** all basic services at walking distance, integration of green spaces, reduction of car dependence. Cities equipped with interaction spaces such as schools, sports and cultural infrastructures, health centres, parks and gardens, libraries, shops.
- **Healthy technology:** design of interfaces without infinite scroll, aggregated notifications, default time limits. Promote the use of platforms that encourage real and deep interactions.

4.4 Mental Health and Addictions

- Recognise that withdrawal discomfort from an addiction does not indicate a need, but a pathological dependence. Treatments should offer healthy alternatives that do cover genuine needs (exercise, nature, social bonding, purpose) rather than simply replacing one drug with another.
- Develop community addiction prevention programmes based on the satisfaction of the whole set of needs in the three dimensions.

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5. Discussion and Limitations

The theory presented integrates contributions from evolutionary biology (symbiosis, homeostasis), affective neuroscience (social pain), humanistic psychology (Maslow, Alderfer) and ecological economics (planetary limits). Its main originality is the explicit articulation of three interdependent (non-hierarchical) dimensions with an operational criterion (universality + satiability + healthiness) that allows distinguishing needs and desires.

Open limitations:

1. **Cultural and individual thresholds:** The exact amount of nature, bonds or autonomy may vary. However, the existence of a threshold — below which there is harm and above which there is no additional improvement — is the defining characteristic. Cross-cultural research should establish these ranges.
2. **Conflicts between dimensions:** An environmental need (protecting a forest) may conflict with a social need (housing for homeless people). The solution is not to deny any, but to seek symbiotic satisfactions (dense and efficient housing with integrated forests). The criterion of healthiness must include the non-destruction of other dimensions.
3. **Contextual prioritisation:** Although there is no fixed hierarchy, in situations of acute scarcity people prioritise one need over others. This does not imply that this need is "more basic" in essence, but that the context imposes a temporary urgency. The set theory must incorporate this situational dynamic without falling into a structural ordering.
4. **Confusion of needs with emerging means:** We might come to think that internet access is a need in digitalised societies. But internet access is only a tool that allows us to cover the need to relate, communicate and exchange information. A need can be satisfied in different ways, and a single way can satisfy different needs.

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6. Conclusions

1. Genuine human needs are organised as an interdependent set of three dimensions — personal, social and environmental — whose biological raison d'être is symbiosis: cooperation between levels generates complex and healthy living systems. There is no fixed hierarchy among them; any dimension can become critical depending on the context.
2. A need is defined by three properties: its satisfaction produces well-being and its lack a universal discomfort (in any healthy person), it is satiable (there is a finite threshold) and it is healthy (it does not generate deferred harm or dependence).

3. Induced desires (by industry, media and policies) are insatiable, not universal and often harmful. They are presented as needs to perpetuate consumption, generating chronic dissatisfaction, inequality and environmental collapse.
4. Government policies and regulations should prioritise and guarantee the satisfaction of all the population's needs, discourage insatiable desires, and promote a satiable, healthy and sustainable well-being model.

Final Aphorism

Need is what life demands — a finite and healthy remedy. Desire is a mirage of need, which by comparison and addiction never comes to an end, intoxicating happiness to the point where we try to avoid pain by increasing the dose of the same poison. A school, a city, a healthy life begin with the distinction and satisfaction of the whole set of needs, forgetting none.

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